DOCUMENT RESUME

ED 054 503 CG 006 640

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TITLE The Relationship of Internal-External Control and Adjustment and Satisfaction in Structured and Unstructured Academic Programs.

INSTITUTION Waterloo Univ. (Ontario).

PUB DATE [68]

NOTE 44p.

EDRS PRICE MF-$0.65 HC-$3.29

DESCRIPTORS Academic Achievement; *Academic Education; Academic Performance; *Adjustment (to Environment); Behavior; College Freshmen; College Students; *Educational Environment; Environment; *Reinforcement; *Student Adjustment

ABSTRACT

Two hundred and six (206) first year college students from both structured and unstructured academic programs were administered Rotter's I.E. scale to measure the extent to which they see themselves as having control over their environments. Two reciprocal hypotheses were tested: (1) that the internally controlled student (who sees a relationship between his behavior and environment effect) would be most satisfied with and adjusted to an unstructured academic program where students are asked to control their own environment; and (2) that the externally controlled student (who does not perceive the relationship) will be most satisfied with and adjusted to a structured program where few demands are made that he control his environment. Student adjustment, satisfaction, and grades served as dependent measures. No interaction between I.E. and program structure was reported. Findings indicate: (1) all students were more satisfied in an unstructured academic program; (2) internally controlled students expressed greater satisfaction regardless of which program they were in; and (3) some unexplained sex differences occurred. (Author/TL)

ED054503

THE RELATIONSHIP OF INTERNAL-EXTERNAL CONTROL AND ADJUSTMENT AND SATISFACTION IN STRUCTURED AND UNSTRUCTURED ACADEMIC PROGRAMS

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CG 006 640

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INTRODUCTION

Today's educational systems are characterized by a growing emphasis on unstructured academic programs. Traditional approaches stressing structure are being abandoned for supposedly more effective learning techniques. Much of this enthusiasm, however, is based on philosophical rather than empirical evidence.

The Hall-Dennis Report (Provincial Committee..,1968) for instance, suggests a vast revision of Ontario's educational system without giving empirical support for its proposals. McInnis (1968) calls the traditional approach to education inefficient, dehumanizing, dishonest and stupid. The authoritarian medium, he says, is the message students get, not the intended democratic content. To better prepare students for the ultimate demands of life, McInnis suggests scrapping the authoritarian methods of the traditionalists and adopting a more democratic and unstructured approach.

Although research on structured vs. unstructured academic programs is severly lacking, studies in the area of Industrial Psychology seem to have some relevance.

McGregor (1960) talks of a Theory X and a Theory Y

approach to organizational structure. His X-Y paradigm is analagous to a structured vs. unstructured dichotomy. Theory X is the traditional view of direction and control requiring rigid organizational structure. Theory Y assumes that individuals within an organization will exercise self-control as well as greater creativity and initiative if given the freedom as well as responsibility to do so. McGregor goes on to cite evidence, such as implementation of the Scanlon Plan (cost reduction sharing and effective participation), suggesting that Theory Y is a more efficient approach to organizational functioning than Theory X.

Argyris' (1957, 1964) research also indicated that giving the employee more power over his work environment (presumably less structure) resulted in greater individual acceptance of responsibility, more self control, a concomitant increase in degree of self-actualization and an increased productivity.

Atkinson and O'Connor (1963) found that student reaction to ability grouping depends upon individual differences in achievement motivation. This suggests that different students will react differently to the same program. Thus, an unstructured program might benefit some students and hinder others, while a structured program might have the reverse effect. The nature of the Internal-

External control personality variable, suggests that it should be related to how individual students respond to structured and unstructured programs.

The Internal-External (I-E) control dimension as a personality variable was first discussed in a paper by Rotter, Seeman and Liverant (1962). It is based on Rotter's Social Learning Theory (Rotter,1954). Alfred Adler's (Ansbacher and Ansbacher,1956) concept of "striving for superiority" as a universal motivating force is closely connected with this concept. Lefcourt (1966a, 1966b) also mentions concepts such as competence, helplessness, hopelessness, mastery, ego strength and alienation as being very similar to the I-E variable.

This control construct is considered a generalized expectancy, operative across many situations (Rotter,1965; Lefcourt,1966a; Lefcourt,1966b). It relates to whether an individual sees himself as having control over his environment. The externally controlled person has a generalized expectancy that there is no relationship between his own behavior and environmental effect. He feels the environment is beyond his own control. This person tends to ascribe environmental happenings to chance. The internally controlled person feels that there is a relationship between his own behavior and environmental effect.

As opposed to the externally controlled individual, the internally controlled person feels he can control his environment. He feels he possesses the power within himself to shape the world around him.

Experimental evidence indicates that not only do internally controlled individuals perceive themselves as having power to control their environment, but they also tend to be more active in initiating action that will bring about environmental change. Gore and Rotter (1963) demonstrated this at a Southern Negro college where the more-internal students committed themselves to greater personal and decisive social action. Strickland (1965) also found that Negro students who were known to be active in civil-rights demonstrations were significantly more internal than Negro students who had no involvment in protest movements.

Since the internally and externally controlled students differ in their expectancies regarding environmental change it seems reasonable to expect that they should function differentially in the same program. The purpose of this study is to investigate how the I-E control dimension relates to student adjustment and satisfaction in structured and unstructured academic programs.

In a structured program the individual student is not required to control his environment. Rules and regulations precisely define expected behaviors and rewards. An attempt to change the environment will only result in conflict with the established rules. Since the externally controlled student feels it is beyond his power to change his environment he will make little or no attempt at effecting a change. It follows that such a student will likely be satisfied with and adjust well to this program. Teachers will also see him as one who seems satisfied with and well adjusted to the program. The internally controlled student will tend to be dissatisfied with and poorly adjusted to a structured program because no freedom to influence change is permitted. Teachers will perceive this student as poorly adjusted to and dissatisfied with the program.

In an unstructured academic program completely different demands are placed on the student. Instead of conforming to predetermined rules and regulations the student is required to structure his own environment. No precise limits are given. In such an environment the externally controlled student will have great difficulty in adjusting, and very likely, he will be dissatisfied with the program. The internally controlled student will feel very much at home since he sees himself as able to structure the environment. Because he sees himself as

capable of coping with this environment his adjustment to and satisfaction with the program should be high. In contrast to the structured program, teachers in the unstructured program will view internally controlled students as better adjusted and more satisfied than the externally controlled.

This study will test two specific hypotheses:

1. In the structured environment, the externally controlled student, when compared to the internally controlled student, will be higher on self and instructor ratings of adjustment and satisfaction. The externally controlled student will also have higher grades than the internally controlled student in the structured environment.

2. In the unstructured environment, the internally controlled student, when compared to the externally controlled student, will be higher on self and instructor ratings of adjustment and satisfaction. The internally controlled student will also have higher grades than the externally controlled student in the unstructured environment.

METHOD

Subjects:

First year students at Conestoga College of Applied Arts and Technology were selected for this study. Conestoga is one of nineteen community colleges in Ontario. Its aim is to provide post-secondary school education at an academic level below that of the Universities. At the time of this study, Conestoga was very much involved in innovating new educational approaches.

Students were told that participation in this study was voluntary and would in no way affect their academic standing. They were also told that the results would remain confidential and that the data would constitute the basis for a study required for a Masters degree in Psychology.

Of a total class of 448, 206 (46%) participated. Of these 147 (71%) were male and 59 (29%) were female. With very few exceptions, these students had all recently completed grade 12. Each of the students was enrolled in one of four programs: Business, Technology, Communications or Applied Arts (Appendix 4).

The general consensus[1] of the administration and faculty was that these four programs were so arranged that students enrolled in Business and Technology followed a highly structured academic program, whereas the Communications and Applied Arts programs were very unstructured. Of these four, Business was the most structured and Communications the most unstructured program.

Measures:

The internal-external control variable was measured using Rotter's Reaction Inventory (Rotter,1966). This scale consists of 29 items dealing exclusively with the subject's belief about the nature of the world.(Appendix 1). The items are summed to yield one score. A person scoring high on this scale is assumed to be externally controlled; one scoring low, internally controlled.

The Otis Quick-Scoring Mental Ability Test (Otis, 1939) was administered to each subject to provide an estimate of I.Q. The aim was to partial the effect of I.Q. out of the grade. This would control for the possibility of either internally or externally controlled students or students in any one program having higher I.Q.'s and thus

[1] The author was also well acquainted with these programs, having spent a four-month internship at the College Counselling Centre.

accounting for a difference in grade score.

Each subject also responded to a standardized questionnaire (Appendix 2), intended to measure his self rating of satisfaction and adjustment to the particular program in which he was enrolled. Responses were made on two ten-point scales, ranging from no adjustment to complete adjustment and from complete dissatisfaction to complete satisfaction.

The instructors, using similar scales (Appendix 3), also rated each student on the same two variables. Only instructors who taught these students participated in the rating. From two to five ratings were obtained for each student, except in the Communications program where five students remained unrated because their instructors did not participate. In one special Technology class (n=24), only one instructor rating was available. The mean instructor rating of satisfaction and adjustment for each student was obtained by averaging all of the instructors' ratings of him.

The I-E scale, the questionnaire and the "Otis" were all administered at one sitting during regular class time. Students not wishing to participate were excused from attending. To prevent biasing others, students were

asked not to discuss the study with other students who had not yet participated but were scheduled to do so.

Each student's grade was obtained from the registrar's office. Grades were expressed as scores ranging from 0 to 4, where 0 meant a failure or unsatisfactory work, 1 indicated below average or poor work, 2 was satisfactory work, 3 meant good or above average work and 4 indicated excellent work. The final grade for the academic year was used. All data were coded to protect the confidentiality of each student and were not available to either students or college officials.

RESULTS

The data were first analyzed to investigate the hypothesized interactions between the I-E personality control variable and structured vs. unstructured environments (Table 1).

On self ratings of adjustment to the structured academic programs, the internal Ss had a mean rating of 7.06 while the mean for the external Ss was 7.16. The self ratings on satisfaction in the same environment, were 6.51 and 5.64 for the internal and external Ss respectively.

Very little difference between the final grades of internal Ss and external Ss in the structured program was noted. Internal Ss had a mean final grade of 2.42 and external Ss had a mean final grade of 2.46.

With the exception of the self rating of satisfaction, none of the above mentioned differences between internal and external Ss in the structured environment was significant. The higher self rating of satisfaction by the internals was significant at the 0.01 level (two-tailed test).

These results did not support the first hypothesis

TABLE 1

ADJUSTMENT, SATISFACTION AND GRADES

		STRUCTURED			UNSTRUCTURED		
		Internal	External	Difference	Internal	External	Difference
Self Rating:							
Adjustment	M	7.06	7.16	0.16	7.70	7.14	0.56
	SD	1.71	1.42		1.44	1.99	
	N	70	70		27	35	
Satisfaction	M	6.51	5.64	0.87*	7.15	6.68	0.47
	SD	2.02	1.91		0.52	1.59	
	N	70	70		26	34	
Instructors' Rating:							
Adjustment	M	6.89	6.68	0.21	6.83	6.69	0.14
	SD	1.64	1.92		2.15	1.81	
	N	72	69		25	32	
Satisfaction	M	6.70	6.44	0.26	6.20	6.12	0.08
	SD	1.59	1.81		1.70	1.58	
	N	72	69		25	32	
Grade:	M	2.42	2.46	0.04	2.54	2.67	0.13
	SD	0.98	0.79		0.83	0.84	
	N	72	69		27	34	

*p<.01

which predicted that the externals in the structured environment would be significantly higher on all five measures. The one significant difference that did occur, (self rating of satisfaction), was not in the direction predicted by hypothesis one.

In the unstructured program the internal Ss had a mean self rating of adjustment of 7.70. The mean self rating of external Ss was 7.14. On the scale to measure the self rating of satisfaction, the internal Ss had a mean of 7.15 while the mean of the external Ss was 6.68. Mean instructor ratings of student adjustment to the unstructured programs were 6.83 and 6.69 for internal and external Ss respectively. Their mean ratings of perceived student satisfaction with the unstructured programs were 6.20 for the internal Ss and 6.12 for the external Ss.

The mean final grade of the internal Ss in the unstructured programs was 2.54, while the mean final grade of the external Ss in the same programs was 2.67. None of these five measures used in the unstructured programs resulted in significant differences between internal and external Ss.

Although the self and instructor ratings of adjustment and satisfaction in the unstructured environment were

in the direction predicted by hypothesis two, support cannot be claimed because of the low significance of these results.

A check on the reliability of the instructor's ratings of adjustment and satisfaction was made by correlating the ratings of eight pairs of raters. The correlations of ratings ranged from 0.91 to -0.06 on adjustment, and from 0.83 to 0.01 on satisfaction. The median correlation coefficients for adjustment and satisfaction for this sample were 0.28 and 0.34 respectively.

The self ratings of adjustment and satisfaction correlated 0.30. Instructor ratings of student adjustment and satisfaction correlated 0.80. These results are significant at the 0.01 level. They indicate that the adjustment and satisfaction scales partially measured the same thing. This was much more so with the instructor ratings, where the two were almost identical, than with student ratings.

Instructor ratings of adjustment and satisfaction were found to correlate 0.54 and 0.45 respectively with grades. Self ratings of adjustment correlated 0.35 with grades and self ratings of satisfaction correlated 0.26 with grades. All of these were significant at the 0.01 level. These results suggest that, to a large extent at

least, instructors used the same criteria for rating students on adjustment and satisfaction as they did for arriving at the students' grades. The correlation of students' self ratings of adjustment and satisfaction with grades were significantly lower ($p<0.01$) than the correlation of the instructors' ratings of adjustment and satisfaction with grades. This suggests that to a large extent, instructors and students used quite different criteria on which to base their adjustment and satisfaction ratings.

Although the predicted interaction between I-E and environment did not occur, atwo-way analysis of variance did show that internals and externals did react differently in structured and unstructured environments on self ratings of satisfaction (Table 2). Across both environments the internal Ss had a mean self rating of satisfaction of 6.83. The external Ss had a mean self rating of 6.16. This difference (0.67) was significant at the 0.02 level (two-tailed test), indicating that internal Ss expressed more satisfaction than external Ss regardless of the environment. Looking only at environment differences, the data showed that students in the unstructured environment had a mean self rating of satisfaction of 6.92. The mean self rating of students in the structured environment was 6.08. This difference (0.84), was significant at the 0.01 level (two-tailed test), indicating that students in the unstructured envi-

TABLE 2

ANALYSIS OF VARIANCE OF DEPENDENT VARIABLES

		Self-A		Self-S		Inst.-A		Inst.-S		Grade	
	DF	MS	F	MS	F	MS	F	MS	F	MS	F
Source:											
Internal-External (I-E)	1	0.970	0.413	18.87	5.192**	1.298	0.385	1.205	0.401	0.299	0.369
Environmental Structure (S)	1	7.886	3.357*	29.04	7.789***	0.028	0.008	6.686	2.209	1.115	1.375
I-E + S	1	2.350	1.000	1.602	0.441	0.054	0.016	0.289	0.096	0.0.077	0.095
Within	194	2.340	-	3.635	-	3.370	-	3.010	-	0.811	-

Self-A = self rating of adjustment
Self-S = " " " satisfaction
Inst.-A = instructor rating of adjustment
Inst.-S = " " " satisfaction

* p<.10
** p<.05
*** p<.01

ronment are more satisfied than students in the structured environment.

The difference between internal Ss' and external Ss' self ratings of satisfaction was less in the unstructured than in the structured environment (Figure 1). As mentioned previously (Table 1), the difference of 0.87 between internal and external Ss in the structured environment was significant at the 0.01 level. The difference of 0.47 in the unstructured environment was not significant. The total convergence of internal and external Ss self rating of satisfaction from structured to unstructured environments, however, was not significant.

No differences were found in self ratings of adjustment nor from instructor ratings of either adjustment of satisfaction.

The correlational data (Table 3), also indicated that internal Ss tend to be more satisfied than external Ss ($r=.25$) ($p<.01$; two-tailed test). Highest negative correlations were obtained in the most structured (Business: -0.32) and most unstructured (Communications: -0.56) programs. Both were significant at the 0.01 level (two-tailed test). Most complaints about program structure received in the Counselling Centre also came from the Bus-

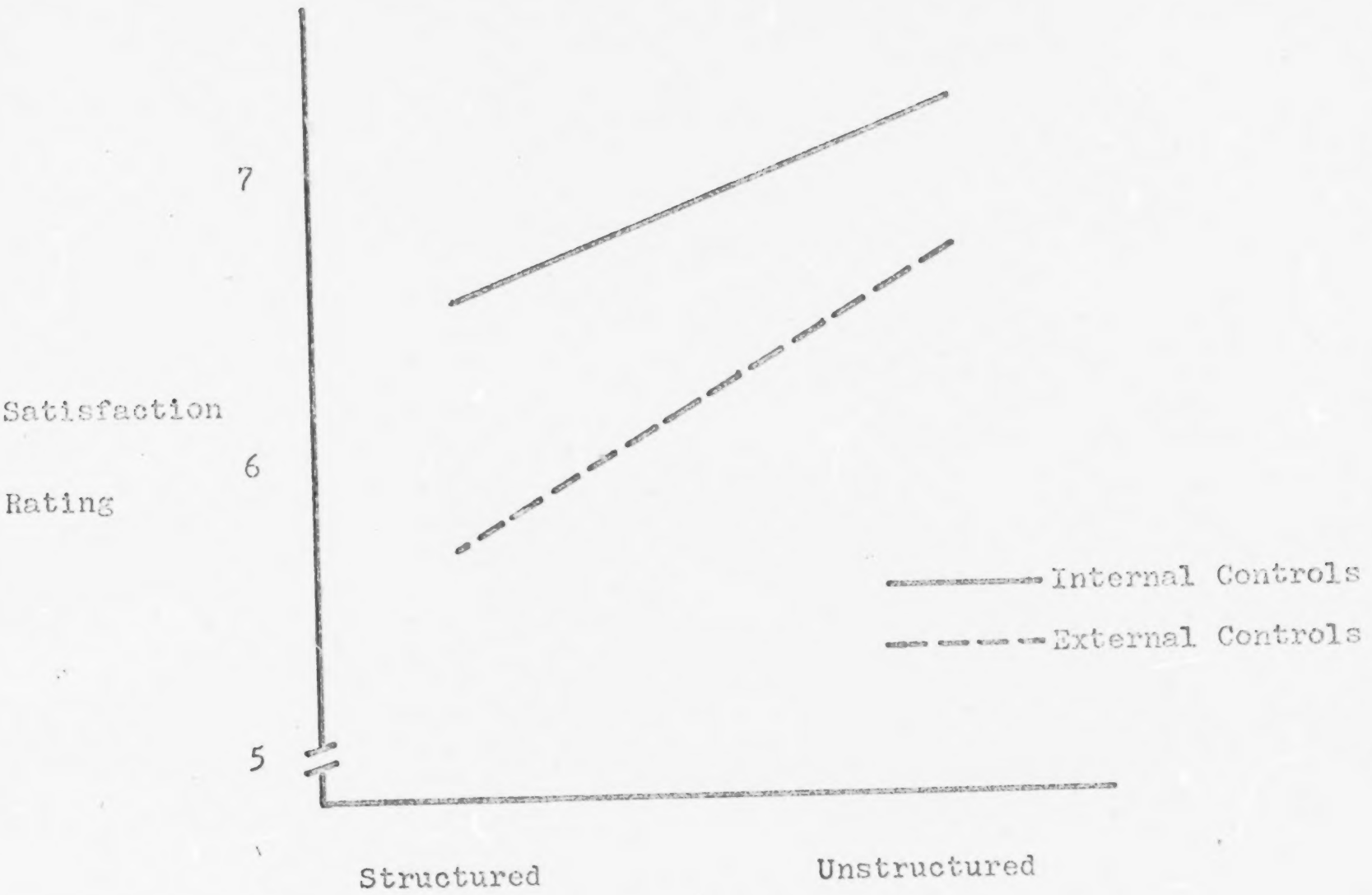

FIGURE 1

I-E vs. STRUCTURE ON SELF RATING OF SATISFACTION

TABLE 3

CORRELATIONAL DATA

	STRUCTURED		UNSTRUCTURED		
I-E vs.:	Bus.	Tech.	App. Arts	Comm.	All
Grade Score	-.03	-.11	.18	-.23	-.03
I.Q.	-.21*	.21*	.18	-.25	.00
Self Rating of Adjustment	-.16	-.09	-.12	-.11	-.11
Self Rating of Satisfaction	-.32**	-.16	-.09	-.56**	-.25**
Instructor Rating of Adjustment	-.10	-.17	-.09	-.09	-.13
Instructor Rating of Satisfaction	-.11	-.12	-.09	-.09	-.13

*p<.10 (two-tailed)
***p<.01 (" - ")

iness and Communications divisions. Business students felt their program was too structured and even went so far as to petition for a change to less structure. The Communications students, on the other hand, complained of too little direction.

Business had the lowest mean self rating of satisfaction of 5.79 (Figure 2). Technology students rated themselves at 6.39 while Applied Arts students had the highest satisfaction rating at 7.05. Communication students rated themselves at 6.64. Applied Arts was significantly higher than both Business and Technology, at the 0.001 and 0.10 levels respectively (two-tailed test). The difference between Applied Arts and Communications was not significant.

The mean I-E score for the students studied was 9.69, with a standard deviation of 3.49. This was significantly higher ($p<0.001$) than a comparable group studied at Ohio University (Rotter, 1966).

Students in the structured environment had a mean I-E score of 9.69 while students in the unstructured environment had a mean I-E score of 9.68. This difference was not significant, suggesting that students in the structured and unstructured environments cannot be differ-

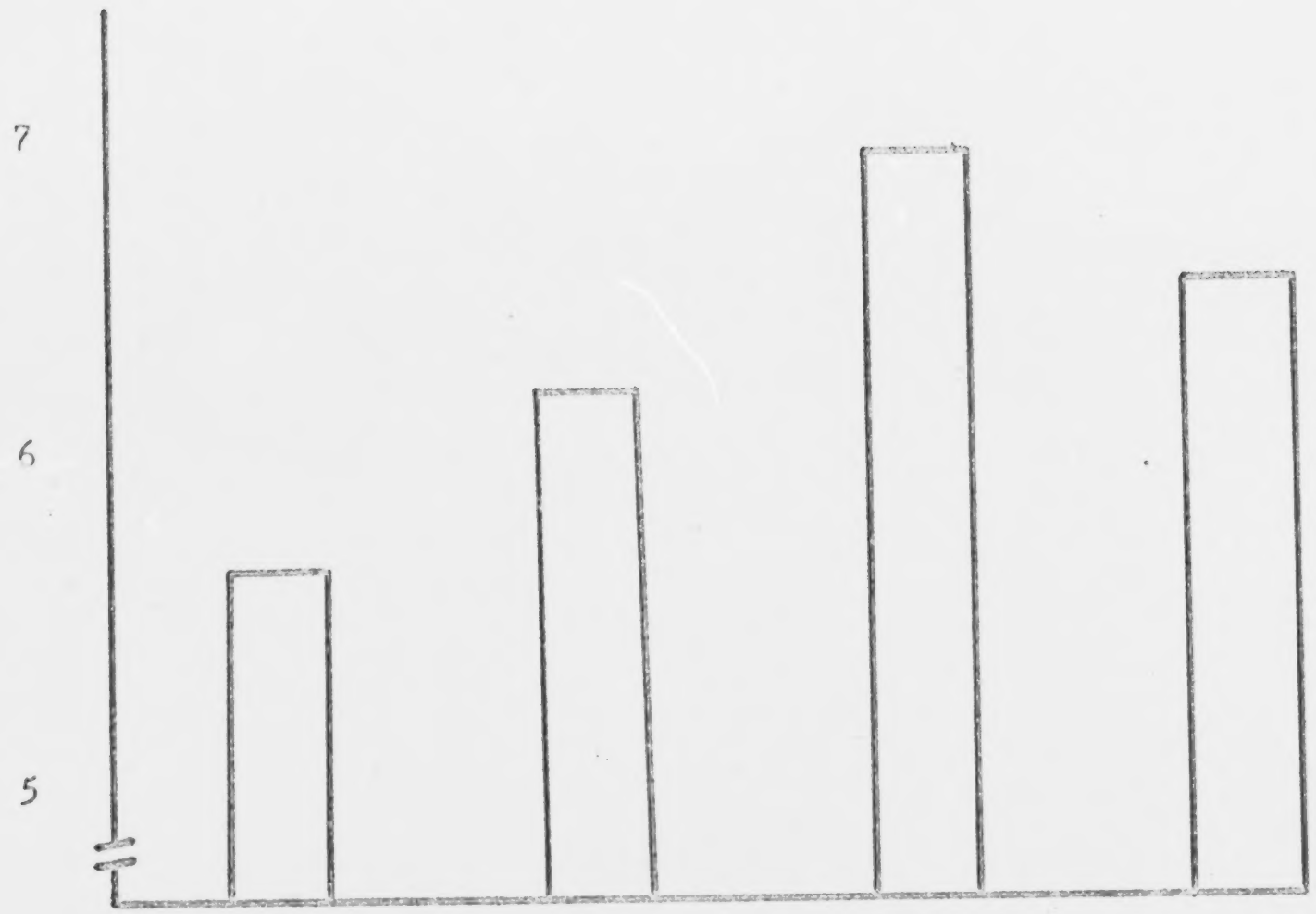

FIGURE 2

A COMPARISON BY PROGRAM ON SELF RATING OF SATISFACTION

entiated on the basis of I-E.

An analysis of variance was also done to investigate sex differences. On the I-E variable males had a mean score of 9.54. The females' mean I-E score was 9.94. This difference was not significant.

Sex differences (Appendix 5) were observed on grades. Internal males and external females had grades of 2.47 and 2.71 respectively. External males had a mean grade of 2.32 whereas internal females had a mean of 2.25. This interaction between sex and I-E on grades was significant at the 0.07 level, suggesting that internal males and external females were coping the best, academically.

When environments were compared, males in the structured programs had a mean grade score of 2.45 while males in the unstructured program had a mean of 2.34. Females in the structured and unstructured programs had mean grade scores of 2.23 and 2.73 respectively. This interaction was significant at the 0.06 level. This indicates that males did best in the structured programs whereas females did best in the unstructured programs.

The most significant sex differences occured on self ratings of satisfaction. Males had a mean rating of

6.66 and females 5.58. The difference between these two means was significant at the 0.003 level.

Internal males had a mean self rating of satisfaction of 7.28 while external males had a mean rating of 6.04. Females did not follow this trend, in fact, the reverse was true (Figure 3). The internal females averaged a self rating of satisfaction of 5.42, and the externals had a mean slightly higher at 5.74. This interaction between sex and I-E was significant at the 0.02 level.

A difference (D=0.02) as to how males and females reacted in the two environments was also noted on the self ratings of satisfaction (Figure 4). In the structured environment the male mean self rating of satisfaction was 6.31 and it increased to 7.01 in the unstructured environment. The females rated themselves lower in both environments: 4.39 in the structured and 6.77 in the unstructured. Females also showed a much greater difference between structured and unstructured programs: 2.38 as opposed to 0.69 for the males. This interaction between sex and program structure was significant at the 0.02 level.

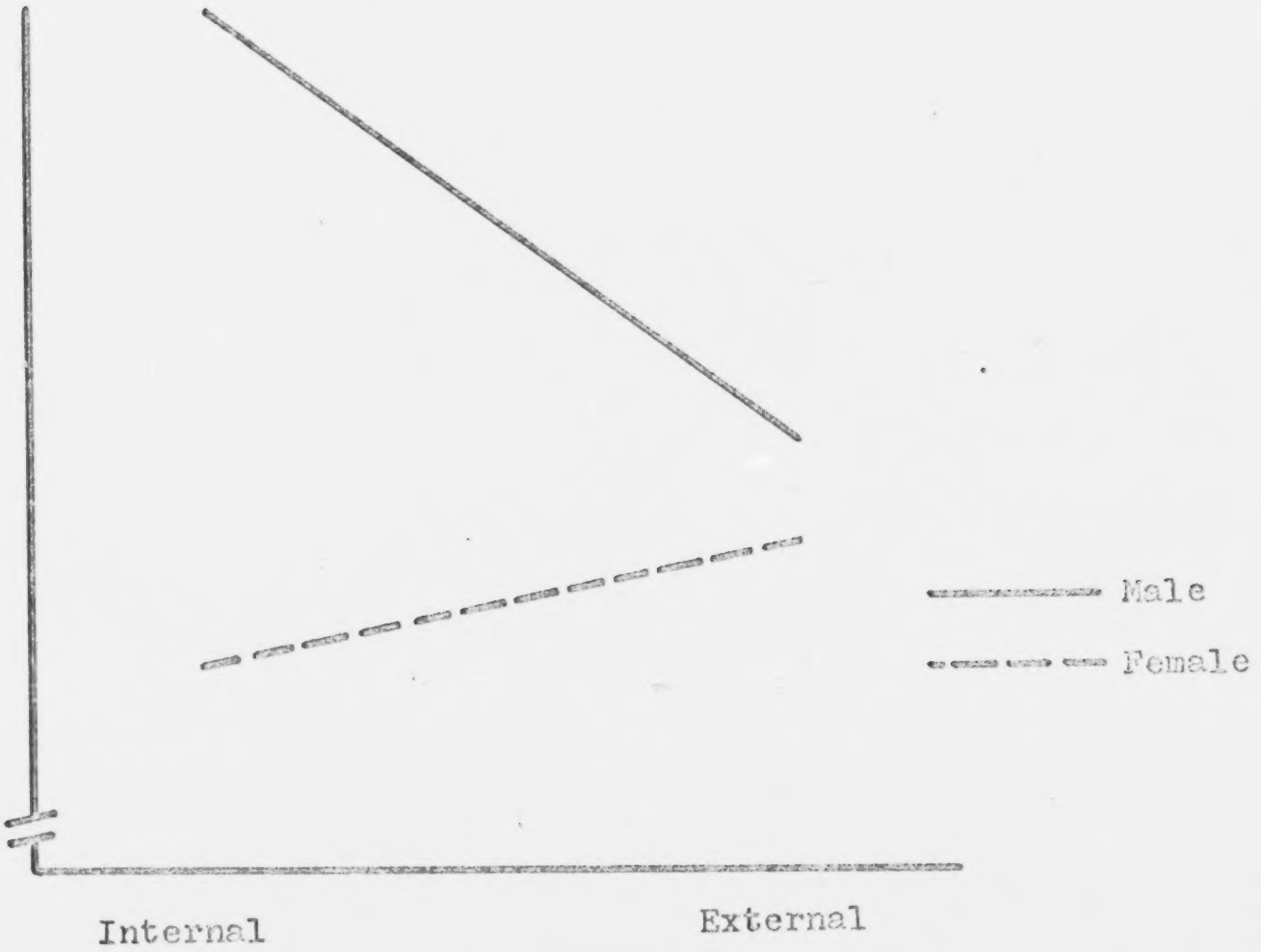

FIGURE 3

SEX vs. I-E ON SELF RATING OF SATISFACTION

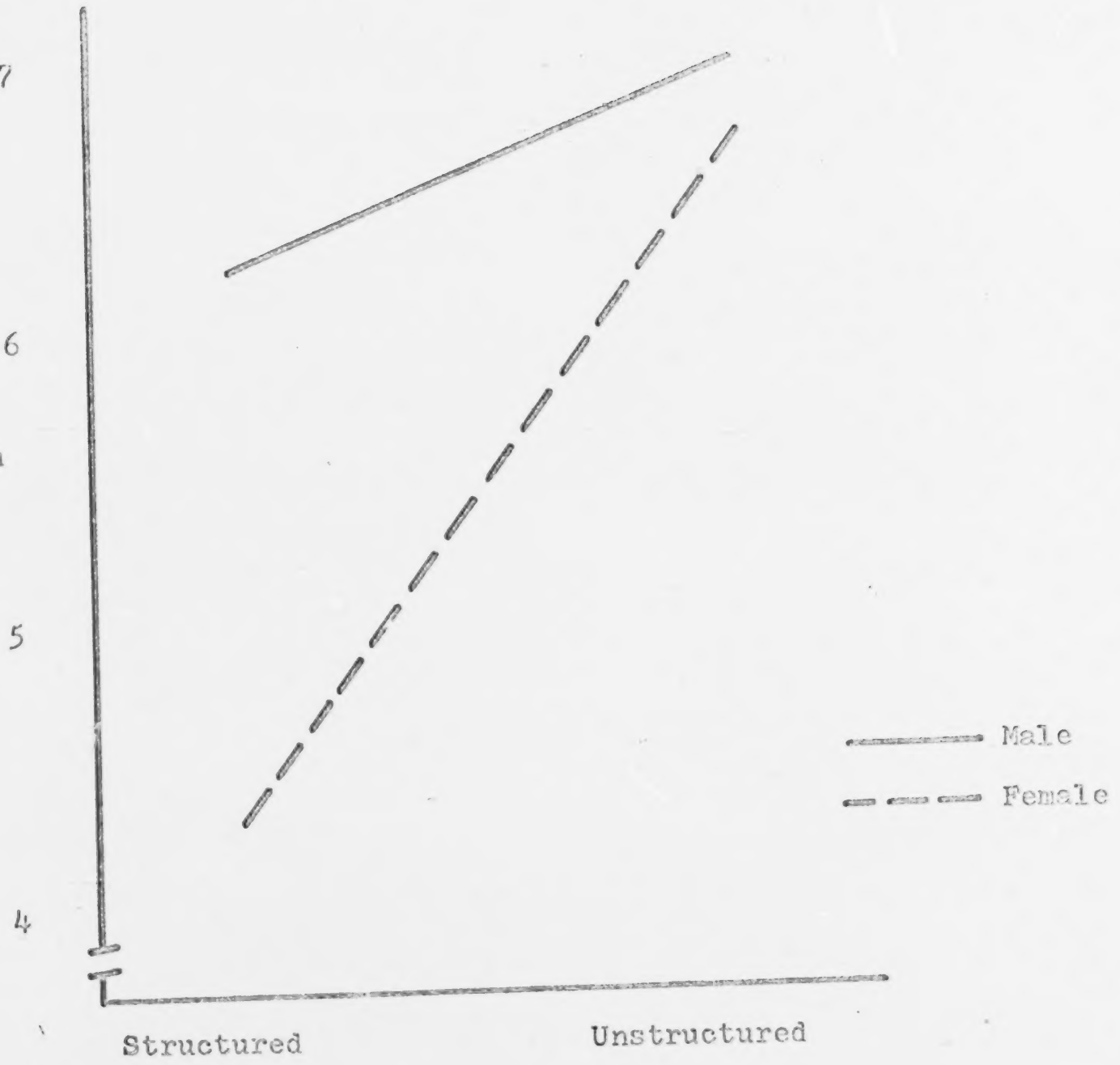

FIGURE 4

SEX vs. STRUCTURE ON SELF RATING OF SATISFACTION

DISCUSSION

It was hypothesized that an interaction between I-E and environment would occur on self and instructor ratings of adjustment and satisfaction and on grade scores. The results however, did not support this. In both the structured and unstructured environments, internals are more satisfied than externals. Rotter (1966) and Phares (1968) suggest that the tendency to forget unpleasant failures and experiences is characteristic of internals. Since they perceive themselves as controlling their environment, internals forget those experiences which would cause them to blame themselves. Externals, since they blame forces outside of themselves for misfortunes that they experience, already have an escape. The use of this avoidance technique by internals could explain why externals consistently express greater dissatisfaction, regardless of the environment.

All students express a greater amount of satisfaction in unstructured than in structured environments. Since most of the students in this study had recently completed high school these results can probably be partially explained as being their positive reactions to a novel unstructured environment and negative reactions to the traditional structured approach of the high school.

More research is certainly needed to see whether the higher student satisfaction in the unstructured program persists beyond the first year.

This study also suggests that a moderately unstructured program is optimal for greatest satisfaction. An increase in structure, over the optimal, results in a concomitant decrease in satisfaction. A decrease in structure below the optimal does not result in a significant change in satisfaction.

The high I-E score for this Canadian population, when compared to Ohio students, is probably a function of culture. Similar results have been obtained using Canadian freshman students at the University of Waterloo.[2]

High correlations within individual instructors' ratings of adjustment and satisfaction suggest that each instructor based these two ratings on the same criteria. Low interrater reliability on both adjustment and satisfaction ratings suggests that different instructors used different criteria. This low interrater reliability makes it impossible to draw any worthwhile conclusions from the instructor ratings. Several alternative explanations for

[2] personal communication with A. Fedorovicius

this low reliability are possible. First of all, it is possible that students react very differently in different classes. If this is so, the ratings may be accurate. Secondly, the instructors may not be able to interact enough with individual students to give an accurate rating. Probably, the low interrater reliability is a result of a combination of the above reasons.

Although instructors were asked to make their ratings as independent of grades as possible, the high correlations between instructors' ratings and grades indicate that instructors probably base their ratings partly on the academic performance of the students.

More research is needed to help explain the sex differences that occured. At present it can only be noted that both males and females followed the over-all trend of greater satisfaction in unstructured programs. Females, however, contradict the previous over-all data which suggests that internals are more satisfied than externals. An explanation for the sex differences on grade scores also is unavailable.

The results of this study suggest that, if student satisfaction is valued and all other academic variables are held constant, educators would be wise to abandon

traditional programs of direction and control and implement academic programs which are relatively unstructured.

SUMMARY

The purpose of this study was to investigate the interaction of the I-E control variable and the degree of structure in academic porgrams. Student adjustment, satisfaction and grades in both structured and unstructured programs served as dependent measures. Adjustment and satisfaction measures were obtained using student self ratings and instructor ratings. The study found that there was no interaction between I-E and program structure. All students were more satisfied in an unstructured academic program than in a structured academic program. Internally controlled students also expressed greater satisfaction than externally controlled students, regardless of the academic program in which they were enrolled. There was some evidence to indicate that a moderately unstructured program resulted in greatest student satisfaction. There were no differences in self ratings of adjustment or instructor ratings of either satisfaction or adjustment. Some unexplained sex differences also occured. Internal males and external females had the best grades as well as expressing the greatest amount of satisfaction. When environments were compared, the data indicated that males in the structured and females in the unstructured programs achieved the highest grades. Males also expressed significantly more satisfaction than females in both environments.

Appendix I

Social Reaction Inventory

This is a questionnaire to find out the way which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. Remove THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and mark an "X" in the space under the letter a or b which you choose as the statement most true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

REMEMBER

Select that alternative which you personally believe to be more true.

I more strongly believe that:

1. a. Children get into trouble because their parents punish them too much.

   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.

   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.

   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.

   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.

   b. Most student's don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.

   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you.

   b. People who can't get others to like them, don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.

   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.

   b. Trusting fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.

b. Many times exam questions tend to be so unrelated to course work, that studying is really useless.

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.

b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.

b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.

b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.

b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.

b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.

b. There really is no such thing as luck.

19. a. One should always be willing to admit his mistakes.

b. It is usually best to cover up one's mistakes.

I more strongly believe that:

20. a. It is hard to know whether or not a person really likes you.

b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.

b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.

b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.

b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.

b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.

b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.

b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.

b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.

b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. c. Most of the time I can't understand why politicians believe the way they do.

b. In the long run the people are responsible for bad government on a national as well as on a local level.

Appendix 2

QUESTIONNAIRE

(student)

NAME: _____ SEX: _____

ACADEMIC PROGRAM: _____ AGE: _____

Below are two scales to measure how you relate to the academic program you are now enrolled in. You are asked to rate yourself on how well you adjust to the academic program and how satisfied you are with the program. Use only your own jusgment. If you feel you adjust completely circle the "10" on the scale for adjustment. The less you feel you adjust the lower your rating should be. If you feel you don't adjust at all to the program circle the "1".

Similarly rate yourself on how satisfied you are with the program. Use only your own judgment. If you feel completely satisfied circle the "10". The less satisfied you feel the lower you should rate youreslf. If you feel completely dissatisfied with the program circle the "1".

Make both the rating on adjustment and satisfaction as independent of your grades as you can.

Your response will remain completely confidential.

I DON'T ADJUST AT ALL			I ADJUST MODERATELY WELL					I ADJUST COMPLETELY	
1	2	3	4	5	6	7	8	9	10

I AM COMPLETFLY DISSATISFIED			I AM MODERATELY SATISFIED					I AM COMPLETELY SATISFIED	
1	2	3	4	5	6m	7	8	9	10

Thank you for your co-operation.

Appendix 3

QUESTIONNAIRE

(instructor)

NAME OF STUDENT: _____

ACADEMIC PROGRAM: _____

Below are two scales to measure how a student relates to the academic program he is now enrolled in. You are asked to rate the student mentioned above on how well he seems to adjust to the program and how satisfied he seems with the academic program. Use only your own judgment. If he seems to adjust completely circle the"10" on the scale for adjustment. The less he seems to adjust the lower your rating should be. If he doesn't adjust at all to the program circle the "1".

Similarly rate the student on how satisfied he seems with the program. Use only your own judgment. If he seems completely satisfied circle the "10". The less satisfied he seems to you the lower you should rate him. If he seems completely dissatisfied with the program circle the "1".

Make both the rating on adjustment and satisfaction as independent of the student's grades as you can.

Your response will remain completely confidential.

DOESN'T ADJSUT AT ALL			ADJUSTS MODERATELY WELL					ADJUSTS COMPLETELY
1	2	3	4	5	6	7	8	9	10

SEEMS COMPLETELY DISSATISFIED			SEEMS MODERATELY SATISFIED					SEEMS COMPLETELY SATISFIED
1	2	3	4	5	6	7	8	9	10

Thank you for your co-operation.

ANSWER SHEET

NAME _____. COURSE _____.

	a	b
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		

	a	b
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		

Appendix 4

SUBJECT DISTRIBUTION

Environment:	STRUCTURED		UNSTRUCTURED	
Program:	Business	Technology	Applied Arts	Communications
Male	50	68	8	15
Female	20	--*	32	9
	74 (55%)	68 (43%)	40 (45%)	24 (46%)

* none enrolled

APPENDIX 5

ANALYSIS OF VARIANCE OF DEPENDENT VARIABLES

		Self-A		Self-S		Inst.-A		Inst.-S		Grade	
	DF	MS	F	MS	F	MS	F	MS	F	MS	F
Source:											
Internal-External (I-E)	1	0.742	0.317	5.735	1.610	0.055	0.017	0.002	0.001	0.734	0.911
Environmental Structure (S)	1	14.72	6.295***	66.01	19.57***	0.342	0.104	1.049	0.351	1.085	1.347
Sex	1	2.259	0.966	32.19	9.542***	3.436	1.042	2.869	0.959	0.193	0.240
I-E + S	1	6.577	2.813*	1.749	0.518	3.156	0.957	1.257	0.420	0.769	0.955
I-E + Sex	1	0.889	0.380	17.41	5.051**	16.60	5.033**	7.210	2.409	2.667	3.311*
S + Sex	1	4.416	1.889	19.52	5.781**	0.001	0.000	2.501	0.836	2.720	3.378*
I-E + S + Sex	1	6.967	2.980*	0.462	0.137	0.086	0.026	0.249	0.083	0.077	0.096
Within	189	2.338	-	3.374	-	3.298	-	2.993	-	0.805	-

Self-A = self rating of adjustment
Self-S = " " " satisfaction
Inst.-A = instructor rating of adjustment
Inst.-S = " " " satisfaction

* p<.10
** p<.05
*** p<.01

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